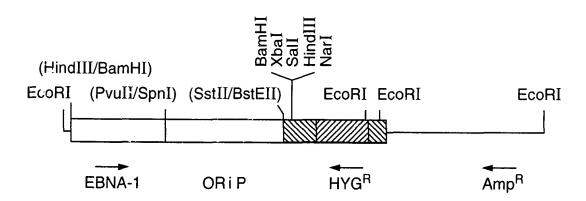
Application No.: 09/247,054
Title: Self-Replicating Episomal Expression Vectors Conferring
Tissue-Specific Gene Expression
Inventors: Michael Antoniou and Franklin G. Grosveld
Docket No. CACO-0045
Date of Filing: February 9, 19
Telephone No. (215) 568-310 Date of Filing: February 9, 1999 Telephone No. (215) 568-3100

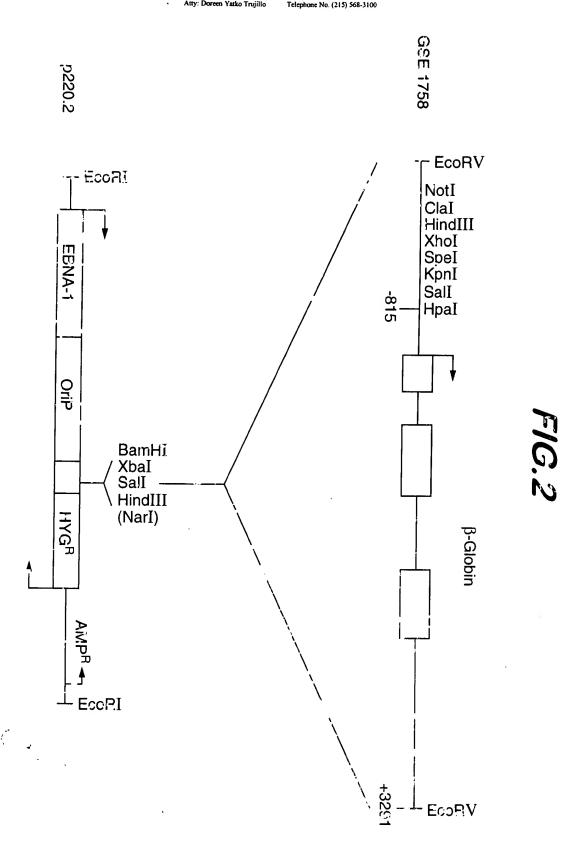
## FIG.I



bp	
1-35	 pBR322
36-2646	EBV EBNA-1 107567-110176 (Baer et. al., Nature 310:1984) Bam HI-PvuII fragment. Bam HI site was blunt-end ligated to the HindIII site.
2647-4826	EBV OriP 7333-9516 SphI-SstII sites blunt-end ligated to the BstEII site. (Sugden et. al., MCB 5:410, 1985)
4827-5460 6488-6747	HSV TK regulatory region (McKnight, S.L., Nucleic Acids Res. 8, 5949, 1980) PvuII fragment ligated into the poisonless pBR322 at NaeI site. These sites lost in cloning.
5461-6487	HPH gene (Gritz and Davies, Gene 25:179, 1983) Ban HI fragment blunt-end ligated into the SmaI and BglII sites in HSV TK sequences.
6748-8952	 pBR322 poisonless vector (deletion of 1.1 kb in pBR322) confers ampicillin resistance. (Lusky & Botchan, Nature 293:79, 1981)

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Attv: Doreen Yatko Trujillo
Telephone No. (215) 568-3100



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W.F.

- Application No.: 09/247,054
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  Fissue-Specific Gene Expression
  Inventors: Michael Antoniou and Franklin G. Grosveld
  Docket No. CACO-0045
  Date of Filing: February 9, 1999
  Atty: Doreen Yarko Trujillo
  Telephone No. (215) 568-3100

FIG.3

5' H0-2 - 1.5kb KpnI-E blunted fragment	3giII	(KpnI) (Xi	
5' HS-3 - 1.9kb HindIII fragment	ī	(HindIII) (BamHI)  5' HS-3	3
5' HS-4 - 2.1kb BamHl fragment	I-XbaI	(BamHI) 5' HS-4	(XbaI)
(Bar 5' HS-4-3-2 5.5kb construct	5' HS-4	aI) (BamHI) (BstEII) (Xb	3-2
5' HS-3-2 3.4kb construct	(Hind]	(III) (BamHI) (BstEII) (Xb	<del></del>
5' HS-4-3 4kb construct	(Ban	#HI) (MbaI) (MbaI) (MbaI) 5' HS	
5' HS-4-2 3.6kb construct	(Bar:	SHI) (XbaI) (Xb 5' HS-4 5' HS	

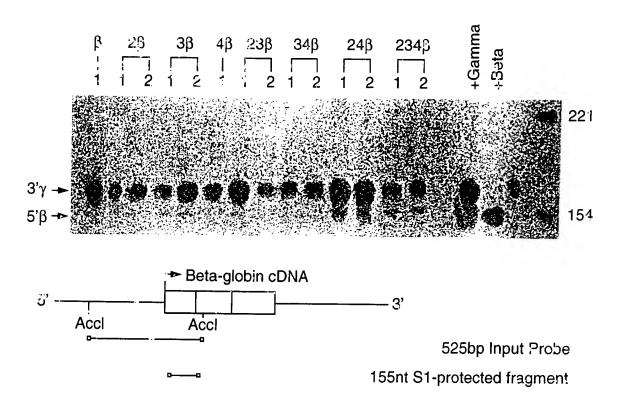
- Ar-dicatic No.: 09/247,054
  ? Ie: Sel. Peplicating Episomal Expression Vectors Conferring
  cissus-Specific Gene Expression
- nventors: Michael Antoniou and Franklin G. Grosveld
  Docket No. CACO-0045
  Date of Filing: Febru Atty: Doreen Yatko Trujillo

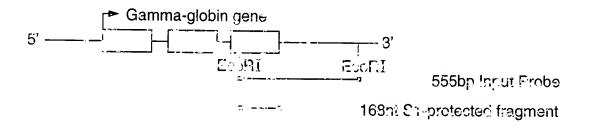
- A29.

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## FIG.4

S1 analysis of K562 cells containing human  $\beta$ -globin on an EBV based vector





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5, U **A**2 Z  $5\beta$ B. Hel a 38 2В β

Z 5В 38 32 ٦

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FIG 6

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1.3.1